

Notice of Allowability

Application No.

10/509,717

Examiner

Matthew O. Savage

Applicant(s)

NEOFOTISTOS, PARIS

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1-27-06.
2. ☒ The allowed claim(s) is/are 1-11.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Matthew O Savage
Primary Examiner
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An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. T. Daniel Christenbury on 4-14-06.

1. (Currently amended) An apparatus for irradiating fluids with UV comprising:

a reactor vessel having a fluid inlet, a fluid outlet and a reaction chamber;
a plurality of UV lamps ~~including an upstream UV lamp~~ extending horizontally across the reaction chamber and substantially perpendicular to ~~an a~~ horizontal axis extending between the fluid inlet and the fluid outlet, wherein said plurality of UV lamps are arranged in a substantially circular array such that at least two of said lamps are located above said horizontal axis and at least two of said lamps are located below said horizontal axis, and wherein two of said lamps located closest to said fluid inlet are upstream lamps and remaining ones of said lamps are downstream lamps;

an upper fluid diverter positioned above said lamps and a lower fluid diverter positioned below said lamps, said upper and lower diverters extending across the reaction chamber substantially parallel to said lamps and positioned such that all diverters are downstream of the upstream UV lamps, and wherein the upper and lower fluid diverters are positioned to direct fluids toward ~~at least~~

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~~one UV lamp~~ the uppermost and lowermost ones of the downstream lamps,
respectively of the upstream UV lamp.

11. (Currently amended) An apparatus for irradiating fluids with UV
comprising:

a closed, substantially circularly-shaped reactor vessel having a fluid inlet,
a fluid outlet and a reaction chamber;

a plurality of UV lamps ~~including an upstream UV lamp~~ extending
substantially horizontally across the reaction chamber and substantially
perpendicularly to ~~an~~ a horizontal axis extending between the fluid inlet and the
fluid outlet, wherein said plurality of UV lamps are arranged in a substantially
circular array such that at least two of said lamps are located above said
horizontal axis and at least two of said lamps are located below said horizontal
axis, and wherein two of said lamps located closest to said fluid inlet are
upstream lamps and remaining ones of said lamps are downstream lamps;

an upper fluid diverter positioned above said lamps and a lower fluid
diverter positioned below said lamps, said upper and lower diverters extending
substantially horizontally across the reaction chamber substantially parallel to
said lamps and positioned such that all diverters are downstream of the upstream
UV lamps, and wherein the upper and lower fluid diverters are positioned to
direct fluids toward ~~at least one UV lamp~~ the uppermost and lowermost ones of
the downstream lamps, respectively of the upstream UV lamp.

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Claims 12-14 have been canceled.

The following paragraph has been added after line 17 of page 5 of the specification:

-- As shown in FIGS. 7 and 9, the plurality of UV lamps are arranged in a substantially circular array such that at least two of the lamps (18a, 18c in FIG. 7, and 18a, 18c, and 18e in FIG. 9) are located above the horizontal axis and at least two of the lamps (18b, 18d in FIG. 7, and 18b, 18d, and 18f in FIG. 9) are located below the horizontal axis, and such that two of the lamps 18a, 18b located closest to the fluid inlet 12 are upstream lamps and remaining ones of the lamps (18c-18d in FIG. 7, and 18c-18f in FIG. 9) are downstream lamps. --.

The following is an examiner's statement of reasons for allowance:

Wekhof and Veloz are considered the closest prior art, however, the references fail to teach or suggest the limitations of the plurality of UV lamps arranged in a substantially circular array such that at least two of said lamps are located above the horizontal axis and at least two of the lamps are located below the horizontal axis, and wherein two of the lamps located closest to said fluid inlet are upstream lamps and remaining ones of the lamps are downstream lamps, an upper fluid diverter positioned above the lamps and a lower fluid diverter positioned below the lamps, the upper and lower diverters extending substantially horizontally across the reaction chamber substantially parallel to the lamps and positioned

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such that all diverters are downstream of the upstream UV lamps, and wherein the upper and lower fluid diverters are positioned to direct fluids toward the uppermost and lowermost ones of the downstream lamps, respectively, as recited in instant claims 1 and 11.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew O. Savage whose telephone number is (571) 272-1146. The examiner can normally be reached on Monday-Friday, 7:00am-3:30pm.


Matthew O Savage
Primary Examiner
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April 14, 2006